



SAFETY DATA SHEET

BLACKFAST 181 CHEMICAL BLACKING SOLUTION

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Compilation date: 10/01/2012

Revision date: 28/05/2015

Revision No: 14

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Product code: 181

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: In use this product should be diluted to 25% with water. PC14: Metal surface treatment products, including galvanic and electroplating products. PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC19: Hand-mixing with intimate contact and only PPE available USES ADVISED
AGAINST: PROC7: Industrial spraying PROC11: Non industrial spraying

1.3. Details of the supplier of the safety data sheet

Company name: Blackfast Chemicals Ltd.

462 Ewell Road

Surbiton

Surrey

KT6 7EL

UK

Tel: +44 (0)208 339 7370

Fax: +44 (0)208 339 7371

Email: sales@blackfast.com

Importer:

Bulk Chemicals

1074 Stinson Drive

Reading

Pennsylvania 19 605

USA

Tel: +1 6109264128

Fax: +1 6109262920

1.4. Emergency telephone number

Emergency tel: +44(0)1865 407333

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Skin Corr. 1B: H314; Resp. Sens. 1: H334; Skin Sens. 1: H317; Muta. 2: H341; Repr. 1B: H360D; STOT RE 1: H372; Met. Corr. 1: H290; Aquatic Chronic 2: H411; Eye Dam. 1: H318; Carc. 1A: H350; Carc. 1Ai: H350i

Most important adverse effects: Causes severe skin burns and eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Suspected of causing genetic defects Perinatal lethality. Route of exposure: inhalation. May cause cancer by inhalation. May damage the unborn child. Causes damage to organs Respiratory tract only through prolonged or repeated exposure via inhalation of dust, mist or aerosol. May be corrosive to metals. Toxic to aquatic life with long lasting effects.

[cont...]

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2.2. Label elements

Label elements:

Hazard statements: H314: Causes severe skin burns and eye damage.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317: May cause an allergic skin reaction.
H341: Suspected of causing genetic defects Perinatal lethality. Route of exposure: inhalation.
H350i: May cause cancer by inhalation.
H360D: May damage the unborn child.
H372: Causes damage to organs Respiratory tract only through prolonged or repeated exposure via inhalation of dust, mist or aerosol.
H290: May be corrosive to metals.
H411: Toxic to aquatic life with long lasting effects.

Hazard pictograms: GHS05: Corrosion
GHS08: Health hazard
GHS09: Environmental
GHS07: Exclamation mark



Signal words: Danger

Precautionary statements: P260: Do not breathe dust/mist/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P201: Obtain special instructions before use.
P273: Avoid release to the environment.
P301+330+331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor/.
P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P333+313: If skin irritation or rash occurs: Get medical.
P270: Do not eat, drink or smoke when using this product.
P314: Get medical advice if you feel unwell.
P405: Store locked up.

2.3. Other hazards

Other hazards: 1.39% of the mixture consists of components of unknown toxicity.

PBT: This product is not identified as a PBT/vPvB substance.

[cont...]

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Section 3: Composition/information on ingredients

3.2. Mixtures

NICKEL SULPHATE - REACH registered number(s): 01-2119439361-44-XXXX

| | | | | |
|-----------|-----------|---|---|-----|
| 232-104-9 | 7786-81-4 | - | Muta. 2: H341; Repr. 1B: H360D; STOT RE 1: H372; Carc. 1A: H350; Carc. 1Ai: H350i | <5% |
|-----------|-----------|---|---|-----|

COPPER SULPHATE - REACH registered number(s): 01-2119520556-40-XXXX

| | | | | |
|-----------|-----------|---|---|-----|
| 231-847-6 | 7758-98-7 | - | Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315; Aquatic Chronic 1: H410; Aquatic Acute 1: H400 | <5% |
|-----------|-----------|---|---|-----|

ORTHOPHOSPHORIC ACID - REACH registered number(s): 01-2119485924-24-XXXX

| | | | | |
|-----------|-----------|---|---------------------|-----|
| 231-633-2 | 7664-38-2 | - | Skin Corr. 1B: H314 | <5% |
|-----------|-----------|---|---------------------|-----|

SELENIUM DIOXIDE

| | | | | |
|-----------|-----------|---|---|-----|
| 231-194-7 | 7446-08-4 | - | Acute Tox. 3: H301+331; Aquatic Acute 1: H400; Aquatic Chronic 4: H413; STOT RE 2: H373 | <5% |
|-----------|-----------|---|---|-----|

Section 4: First aid measures

4.1. Description of first aid measures

- Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin.
- Eye contact:** Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.
- Ingestion:** Wash out mouth with water. Do not induce vomiting. Give 1 cup of water to drink every 10 minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.
- Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. If unconscious and breathing is OK, place in the recovery position. If conscious, ensure the casualty sits or lies down. Consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed

- Skin contact:** There may be irritation and redness at the site of contact. An itchy rash may occur at the site of contact.
- Eye contact:** There may be pain and redness. May cause permanent damage.
- Ingestion:** There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur. There may be vomiting and diarrhoea. It is unlikely that this substance will be swallowed due to its physical properties.
- Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest.

Delayed / immediate effects: Toxicological data is based on animal data.

[cont...]

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4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Eye bathing equipment should be available on the premises.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: Corrosive. In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Do not create dust. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Avoid the formation or spread of mists in the air. Avoid the formation or spread of dust in the air.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep container tightly closed.

Suitable packaging: Polyethylene. Do not use steel containers. Do not use aluminium containers.

7.3. Specific end use(s)

Specific end use(s): PC14: Metal surface treatment products, including galvanic and electroplating products.

[cont...]

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Section 8: Exposure controls/personal protection

8.1. Control parameters

Hazardous ingredients:

NICKEL SULPHATE

Workplace exposure limits:

Respirable dust

| State | 8 hour TWA | 15 min. STEL | 8 hour TWA | 15 min. STEL |
|-------|------------|--------------|----------------------|--------------|
| UK | - | - | 0.1mg/m ³ | - |

COPPER SULPHATE

| | | | | |
|----|---|--------------------|----------------------|---|
| UK | - | 2mg/m ³ | 0.2mg/m ³ | - |
|----|---|--------------------|----------------------|---|

ORTHOPHOSPHORIC ACID...100%

| | | | | |
|----|---|---|---|---|
| UK | 1 | 2 | - | - |
|----|---|---|---|---|

SELENIUM DIOXIDE

| | | | | |
|----|----------------------|---|---|---|
| UK | 0.1mg/m ³ | - | - | - |
|----|----------------------|---|---|---|

DNEL/PNEC Values

Hazardous ingredients:

NICKEL SULPHATE

| Type | Exposure | Value | Population | Effect |
|------|------------|---------------------------|--------------------|----------|
| DNEL | Inhalation | 0.05mg/m ³ | Workers | Systemic |
| DNEL | Inhalation | 0.05mg/m ³ | Workers | Local |
| DNEL | Dermal | 0.00044mg/cm ² | Workers | Local |
| DNEL | Inhalation | 20ng/m ³ | General Population | Systemic |
| DNEL | Inhalation | 20ng/m ³ | General Population | Local |
| DNEL | Oral | 0.022mg/kg | General Population | Systemic |

ORTHOPHOSPHORIC ACID...100%

| Type | Exposure | Value | Population | Effect |
|------|------------|--------------------|------------|--------|
| DNEL | Inhalation | 1mg/m ³ | - | Local |

8.2. Exposure controls

Engineering measures: The floor of the storage room must be impermeable to prevent the escape of liquids.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.

Hand protection: Gloves (acid resistant). Breakthrough time of the glove material > 8 hours.

Eye protection: Tightly fitting safety goggles. Ensure eye bath is to hand.

Skin protection: Acid-resistant protective clothing.

Environmental: Prevent from entering in public sewers or the immediate environment.

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Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Blue

Odour: Perceptible odour

Solubility in water: Soluble

Boiling point/range°C: 100

Flash point°C: >93

Relative density: 1.16

pH: 3

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.
Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

NICKEL SULPHATE

| | | | | |
|------|-----|------|-----|-------|
| ORAL | RAT | LD50 | 264 | mg/kg |
|------|-----|------|-----|-------|

COPPER SULPHATE

| | | | | |
|------|-----|------|----|-------|
| ORAL | HMN | LDLO | 11 | mg/kg |
|------|-----|------|----|-------|

[cont...]

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| | | | | |
|------|-----|------|-----|-------|
| ORAL | RAT | LD50 | 482 | mg/kg |
|------|-----|------|-----|-------|

ORTHOPHOSPHORIC ACID...100%

| | | | | |
|--------|-----|------|------|-------|
| DERMAL | RBT | LD50 | 2470 | mg/kg |
| ORL | RAT | LD50 | 1530 | mg/kg |

SELENIUM DIOXIDE

| | | | | |
|------|-----|------|------|-------|
| ORAL | RAT | LD50 | 68.1 | mg/kg |
|------|-----|------|------|-------|

Relevant hazards for substance:

| Hazard | Route | Basis |
|--------------------------------|---------|-----------------------|
| Skin corrosion/irritation | DRM | Hazardous: calculated |
| Serious eye damage/irritation | OPT | Hazardous: calculated |
| Respiratory/skin sensitisation | INH DRM | Hazardous: calculated |
| Germ cell mutagenicity | -- | Hazardous: calculated |
| Carcinogenicity | -- | Hazardous: calculated |
| Reproductive toxicity | -- | Hazardous: calculated |
| STOT-repeated exposure | - | Hazardous: calculated |

Symptoms / routes of exposure

Skin contact: There may be irritation and redness at the site of contact. An itchy rash may occur at the site of contact.

Eye contact: There may be pain and redness. May cause permanent damage.

Ingestion: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur. There may be vomiting and diarrhoea. It is unlikely that this substance will be swallowed due to its physical properties.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

Delayed / immediate effects: Toxicological data is based on animal data.

Section 12: Ecological information

12.1. Toxicity

Hazardous ingredients:

NICKEL SULPHATE

| | | | |
|-------|-----------|------|------|
| ALGAE | 72H ErC50 | 6.03 | mg/l |
| ALGAE | 96H LC50 | 18.4 | mg/l |
| FISH | 96H LC50 | 14.7 | mg/l |

[cont...]

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COPPER SULPHATE

| | | | |
|---------------|----------|------|------|
| ALGAE | 48H EC50 | 0.1 | mg/l |
| Daphnia magna | 48H EC50 | 2.44 | mg/l |
| Daphnia magna | 96H LC50 | 0.1 | mg/l |
| FISH | 96H LC50 | 810 | µg/l |

SELENIUM DIOXIDE

| | | | |
|---------|-----------|------|------|
| ALGAE | 72H ErC50 | 0.9 | mg/l |
| DAPHNIA | 48H EC50 | 4.8 | mg/l |
| FISH | 96H LC50 | 7.46 | mg/l |

12.2. Persistence and degradability

Persistence and degradability: Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: No bioaccumulation potential.

12.4. Mobility in soil

Mobility: Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

Persistence (P-):

Persistence result: not P-

Bioaccumulation (B-):

Bioaccumulation result: not B-

Toxicity (T-):

mg/l

NOEC for marine or freshwater organisms: <0.1

Toxicity result: T

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Toxic to aquatic organisms.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

Waste code number: 11 01 98

Disposal of packaging: Dispose of in a regulated landfill site or other method for hazardous or toxic wastes.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

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Section 14: Transport information

14.1. UN number

UN number: UN3264

14.2. UN proper shipping name

Shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(ORTHOPHOSPHORIC ACID <2%)

14.3. Transport hazard class(es)

Transport class: 8

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: Yes

Marine pollutant: No

14.6. Special precautions for user

Tunnel code: E

Transport category: 3

IMDG seg. group: 1 - ACIDS

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Specific regulations: Not applicable.

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information: * indicates text in the SDS which has changed since the last revision.

This safety data sheet is prepared in accordance with Commission Regulation (EC) No 1272/2008.

Phrases used in s.2 and s.3: H290: May be corrosive to metals.

H301+331: Toxic if swallowed or if inhaled.

H302: Harmful if swallowed.

H314: Causes severe skin burns and eye damage.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

[cont...]

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H341: Suspected of causing genetic defects <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

H350i: May cause cancer by inhalation.

H360D: May damage the unborn child.

H372: Causes damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

H373: May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

H411: Toxic to aquatic life with long lasting effects.

H413: May cause long lasting harmful effects to aquatic life.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.